CLAIMS

1. Drive belt (3) for a transmission realising a continuously variable transmission ratio comprising at least one continuous band (11), having a radially inwardly oriented surface (12) and a radially outwardly oriented surface (13), and an array of plate-like transverse elements (20) engaging said continuous band (11) such that the elements (20) may slide along a longitudinal direction thereof, which continuous band (11) is curved in a transverse direction at a crowning radius of curvature Rcrown and is provided with an internal residual stress distribution defining a curling radius of curvature Rcurl at which a continuous band (11) would be curved in its longitudinal direction when cut, whereby during operation the continuous band (11) can be bent in its longitudinal direction at a minimum radius of curvature Rmin and whereby a ratio between the curling radius and the minimum radius Rcurl/Rmin defines a pre-bending factor f_{PB}, characterised in that, the pre-bending factor f_{PB} satisfies the equation:

$$f_{PB} = (\delta i+\delta o)/ \delta o$$

wherein:

- δi is the largest perpendicular distance in the radial direction between a neutral line NL in the cross section of the continuous band (11) where the stress due to pure longitudinal bending would be zero and the radially inner most surface (12) of the band (11) and
- δo is the largest perpendicular distance in the radial direction between the said neutral line NL and the radially outer most surface (13) of the band (11).

2. Drive belt (3) according to claim 1, characterised in that the radius of curvature Rcrown of the continuous band (11) in the transverse direction, when measured as the band (11) is straightened and tensioned in the longitudinal direction, has a value in the range between 50 mm and 1000 mm, preferably between 50 mm and 250 mm.

3. Drive belt (3) according to claim 2, characterised in that the pre-bending factor f_{PB} has a value in the range between 2.15 and 2.45.

4. Drive belt (3) for a transmission realising a continuously variable transmission ratio comprising at least one continuous band (11), having a radially inwardly oriented

surface (12) and a radially outwardly oriented surface (13), and an array of plate-like transverse elements (20) engaging said continuous band (11) such that the elements (20) may slide along a longitudinal direction thereof, which continuous band (11) is curved in a transverse direction at a crowning radius of curvature Rcrown and is provided with an internal residual stress distribution defining a curling radius of curvature Rcurl at which a continuous band (11) would be curved in its longitudinal direction when cut, whereby the continuous band (11) can be bent in its longitudinal direction at a minimum radius of curvature Rmin and whereby a ratio between the curling radius and the minimum radius Rcurl/Rmin defines a pre-bending factor f_{PB}, characterised in that, the pre-bending factor f_{PB} satisfies the equation:

$$f_{PB} = \{(1+C/Rcrown)\cdot\delta i+\delta o\}/\ \delta o \qquad (11)$$

wherein:

- C is constant having a value in the range between 40 and 80,
- δi is the largest perpendicular distance in the radial direction between a neutral line NL in the cross section of the continuous band (11) where the stress due to pure longitudinal bending would be zero and the radially inner most surface (12) of the band (11), and
- δo is the largest perpendicular distance in the radial direction between the said neutral line NL and the radially outer most surface (13) of the band (11).

5. Drive belt (3) according to claim 4, characterised in that the radius of curvature Rcrown of the continuous band (11) in the transverse direction, when measured as the band (11) is straightened and tensioned in the longitudinal direction, has a value in the range between 50 mm and 250 mm.

6. Drive belt (3) according to claim 5, characterised in that the pre-bending factor f_{PB} has a value in the range between 2.40 and 3.60.

7. Drive belt (3) for a transmission realising a continuously variable transmission ratio comprising at least one continuous band (11), having a radially inwardly oriented surface (12) and a radially outwardly oriented surface (13), and an array of plate-like transverse elements (20) engaging said continuous band (11) such that the elements (20) may slide along a longitudinal direction thereof, which continuous band (11) is

curved in a transverse direction at a crowning radius of curvature Rcrown and is provided with an internal residual stress distribution defining a curling radius of curvature Rcurl at which a continuous band (11) would be curved in its longitudinal direction when cut, whereby the continuous band (11) can be bent in its longitudinal direction at a minimum radius of curvature Rmin and whereby a ratio between the curling radius and the minimum radius Rcurl/Rmin defines a pre-bending factor f_{PB}, characterised in that, the pre-bending factor f_{PB} satisfies the equation:

$$f_{PB} = \{(f_i/f_o)\bullet\delta i+\delta o\}/\ \delta o$$

wherein:

- f_i is a stress factor defining the relative increase of the maximum tension stress at the radially inner most surface (12) due to anticlastic bending when the band (11) is bent straight,
- f_o is a stress factor defining the relative increase of the maximum tension stress at the radially outermost surface (13) due to anticlastic bending when the band (11) is longitudinally curved at the said minimum radius of curvature Rmin,
- δi is the largest perpendicular distance in the radial direction between a neutral line NL in the cross section of the continuous band (11) where the stress due to pure longitudinal bending would be zero and the radially inner most surface (12) of the band (11), and
- δo is the largest perpendicular distance in the radial direction between the said neutral line NL and the radially outer most surface (13) of the band (11).

8. Continuously variable transmission comprising a drive belt (3) according to any one of the preceding claims and two pulleys (1, 2) that each define a tapered and substantially torus-shaped groove of variable width, in which groove a longitudinally curved section of a drive belt 3 is mounted, whereby during operation of the transmission the said section is bent at a smallest radius of curvature in the longitudinal direction Rmin.